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8 **BEFORE THE ARIZONA CORPORATION COMMISSION**

9 ROBERT "BOB" BURNS, Chairman
10 BOYD DUNN
11 SANDRA D. KENNEDY
12 JUSTIN OLSON
13 LEA MÁRQUEZ PETERSON

14 IN THE MATTER OF THE APPLICATION OF
15 ARIZONA PUBLIC SERVICE COMPANY FOR
16 A HEARING TO DETERMINE THE FAIR
17 VALUE OF THE UTILITY PROPERTY OF THE
18 COMPANY FOR RATEMAKING PURPOSES,
19 TO FIX A JUST AND REASONABLE RATE OF
20 RETURN THEREON, TO APPROVE RATE
21 SCHEDULES DESIGNED TO DEVELOP SUCH
22 RETURN.


Docket No. E-01345A-19-0236

**NOTICE OF FILING DIRECT
TESTIMONY OF NICOLE
HORSEHERDER ON BEHALF OF
SAN JUAN CITIZENS ALLIANCE,
TÓ NIZHONÍ ÁNÍ, AND DINÉ
CARE**

18 San Juan Citizens Alliance, Tó Nizhoní Ání, and Diné CARE (collectively "Citizen
19 Groups") hereby provide notice that they have this day filed the Direct Testimony of Nicole
20 Horseherder.
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1 RESPECTFULLY SUBMITTED this 2nd day of October, 2020.

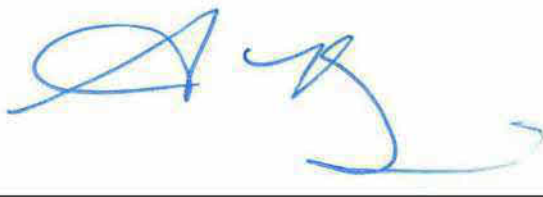
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12 ORIGINAL of the foregoing electronically
13 filed and 8 copies delivered this 2nd day
14 of October, 2020 with:

15 Docket Control
16 Arizona Corporation Commission
17 1200 W. Washington St.
18 Phoenix, AZ 85007

19 COPIES of the foregoing mailed/mailed this
20 2nd day of October, 2020 to the persons
21 identified on the attached service list, consisting
22 of three pages.

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BEFORE THE ARIZONA CORPORATION COMMISSION

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SANDRA D. KENNEDY
JUSTIN OLSON
LEA MÁRQUEZ PETERSON

IN THE MATTER OF THE APPLICATION OF
ARIZONA PUBLIC SERVICE COMPANY FOR
A HEARING TO DETERMINE THE FAIR VALUE
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**TO FIX A JUST AND REASONABLE RATE OF
RETURN THEREON, TO APPROVE RATE
SCHEDULES DESIGNED TO DEVELOP SUCH
RETURN.**

Docket No. E-01345A-19-0236

Direct Testimony of

Nicole Horseherder

on behalf of

The San Juan Citizens Alliance, the Black Mesa Water Coalition, Diné CARE,
and Tó Nizhóní Ání ("Citizen Groups")

October 2, 2020

Direct Testimony of Nicole Horseherder, Citizen Groups

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I. Introduction

Q. Please state your name and business address.

A. My name is Nicole Horseherder. I am the Executive Director of the Navajo grassroots organization Tó Nizhóní Ání. My business address is P.O. Box 483, Kykotsmovi, Arizona 86039.

Q. What are your professional qualifications?

A. I am the Executive Director and one of the founders of Tó Nizhóní Ání, which was established in 2000. Prior to this role, I served on the Water Rights Negotiating Team for the Navajo Nation. I am a fluent speaker of Diné (Navajo), have spent close to 20 years translating federal regulations and other technical data for local Navajo citizens, and served 11 years as the Federal Programs Director for the Piñon Unified School District. I have a B.A. in Family and Consumer Resources from the Department of Agriculture at the University of Arizona and an M.A. in Linguistics from the University of British Columbia, Vancouver. Please reference my resume, which is included as Attachment 1.

Q. For whom are you testifying?

A. I am testifying on behalf of the San Juan Citizens Alliance, Diné CARE, and Tó Nizhóní Ání — collectively, the “Citizen Groups.”

Q. Please describe the three organizations that comprise the Citizen Groups.

The San Juan Citizens Alliance (SJCA) is a community-based nonprofit membership organization with over 500 members in the Four Corners region. SJCA works to protect clean air, pure water and healthy lands across the San Juan Basin in northwestern New Mexico and southwestern Colorado. The organization’s energy program is focused on cleaning up decades of impacts related to fossil fuel development and use in the region and transitioning to a just, clean energy future.

Tó Nizhóní Ání (TNA) is a Navajo grassroots community organization established to preserve and protect the environment, land, water, sky and human health and to advocate for the wise and responsible use of the natural resources in the Black Mesa region and throughout the Navajo Nation. Through its work, TNA educates and brings awareness to local Navajo communities and to Navajo Nation leadership in Window Rock on issues that include energy and

resource development. TNA aims to help move the Tribe to a more sustainable economy that is not dependent on coal.

Diné CARE is an indigenous community organization based within the Navajo homeland, with staff in both Arizona and New Mexico. It strives to educate and advocate for traditional Diné teachings as a means of protecting and providing a voice for all life living among the Four Sacred Mountains of the Navajo. Diné CARE promotes alternative uses of natural resources that are consistent with the Diné philosophy, and it assists local and traditional communities to organize, speak out and determine their own destinies.

Q. How are the Citizen Groups connected to Four Corners Power Plant (FCPP), Navajo Generating Station (NGS) and Cholla Power Plant (Cholla)?

- A. The Citizen Groups have members who are directly impacted by the operations of FCPP and Cholla, who were directly impacted by operation of NGS and now are also dealing with the economic consequences of the closures a year ago of NGS and Kayenta Mine. They monitor and scrutinize government and utility actions related to all three power plants in order to ensure that impacts to local and tribal communities are evaluated and considered as part of decision-making processes that impact the plants, their operations, and most recently their closures.

Additionally, members of Diné CARE and TNA each have Tribal members who have been directly impacted by the operations of NGS and FCPP and the respective sole-source coal-mining complexes (all located on the Navajo Nation) that supply the plants with coal and who will be directly impacted by both plant's closures.

Q. Are any other witnesses testifying on behalf of the Citizen Groups?

- A. Yes. Michael Eisenfeld, the Energy and Climate Program Manager of the San Juan Citizens Alliance, is testifying on behalf of the Citizen Groups, as is David Schlissel, an economist with the Institute for Energy Economics and Financial Analysis.

Q. What is the purpose of Mr. Eisenfeld's testimony?

- A. Mr. Eisenfeld's testimony will:
1. Discuss the environmental and public health impacts of FCPP on the local communities of the Four Corners region.

2. Explain why FCPP will likely retire much sooner than 2031.
3. Explain what is meant by a “just and equitable transition” for communities economically dependent on coal.
4. Explain why APS bears some responsibility for ensuring a just and equitable transition for the previous closure of NGS and the planned closures of FCPP and Cholla.
5. Describe what a just and equitable transition of FCPP would look like for local and Tribal communities in New Mexico.
6. Explain why planning and implementation for a just and equitable transition must begin immediately. And,
7. Expand on the Citizen Groups’ five recommendations that should be implemented as part of this proceeding to ensure a just transition for FCPP, NGS and Cholla.

Q. Do you support Mr. Eisenfeld’s testimony?

A. Yes, I do.

Q. What is the purpose of Mr. Schlissel’s testimony?

- A. Mr. Schlissel’s testimony will focus on the economics of APS’s operations at FCPP since it is currently the plant with the longest interval to retirement. His testimony will provide information about the increasing inability of FCPP to compete against other energy resources and lay out a rationale for the likelihood of APS closing the plant far sooner than the 2031 date currently targeted for its retirement per the following sections:
1. How APS has failed to analyze a retirement date for Four Corners earlier than 2031.
 2. The superior competitiveness of low-cost renewable energy resources and battery storage in the West.
 3. Current and future depressed pricing for natural gas in western energy markets.
 4. The increasing unreliability of FCPP as a baseload generator
 5. The increasing costs of operating FCPP.

6. And the likelihood that power produced by FCPP will remain uncompetitive through 2031 if APS continues to operate the plant.

His testimony provides the basis for the Citizen Groups' contention that APS, based on the dramatic changes taking place in energy markets, will retire FCPP far sooner than the 2031 date it has currently set, and that it is thus crucial for APS to begin working with impacted communities to plan and provide financial and other support for a just and equitable transition. Some of Mr. Schlissel's testimony will be confidential.

Q. Do you support Mr. Schlissel's testimony?

B. Yes, I do.

What is the context and purpose of your testimony?

- A. APS is part owner of three coal-burning power plants whose operations and retirements directly impact communities of concern to the Citizen Groups: FCPP, located on the Navajo Nation in the Four Corners region of northwestern New Mexico; NGS, located on Navajo land in northern Arizona; and Cholla, located just south of the Navajo Nation north-central Arizona. Mr. Eisenfeld's testimony focuses on the environmental and economic impacts of FCPP in New Mexico and the Citizen Groups' recommendations for a just and equitable transition of all three plants. Tó Nizhóni Ání's work is most relevant to the Navajo Nation and to NGS and Cholla. Therefore, in my testimony, I will:
1. Discuss the impact of NGS and Kayenta Mine and the Cholla plant on the local environment and public health.
 2. Discuss the impact of FCPP, NGS and Cholla on tribal jobs and the economy.
 3. Support the immediate commencement of planning and implementation efforts for a just and equitable transition of local communities impacted by the closure of NGS and the eventual retirements of FCPP and Cholla.
 4. Define the basic concepts of a just and equitable transition.
 5. And explain how a just and equitable transition effort for tribal communities in both the Four Corners region and on the Navajo Nation in northern Arizona aligns with the Fundamental Law of the Diné.

II. The Impacts of NGS and Cholla on the Environment and Public Health

Q. Please describe NGS and the surrounding coal complex.

- A. Until its closure in November 2019, NGS was the largest coal-burning power plant in the western United States. It is situated on about 1,800 acres of land leased from the Navajo Nation near Page, Arizona. The first of its three 803-MW (nameplate) units went online in 1974, the second in 1975 and the final unit in 1976. In addition to APS, NGS is co-owned by three other utilities: Salt River Project (43%), Tucson Electric Power (7.5%) and NV Energy (11%), providing electricity to their customers in Arizona and Nevada. The U.S. Bureau of Reclamation also has an ownership stake in NGS (24%), with its share of the plant's former output used to power Central Arizona Project pumps that move about 1.5 million acre-feet per year (AFY) of water from the Colorado River to central and southern parts of the state for residential, agricultural and industrial uses.

During its nearly half century of operation, NGS was one of the largest sources of pollution in the Southwest. Over the plant's 45 years of operation, the three 800-MW units burned a thousand tons of coal per hour to generate electricity that was delivered to customers in California, Arizona and Nevada. The plant also pumped more than a half-billion tons of carbon dioxide into the atmosphere and released millions of tons of additional harmful pollutants into the surrounding air every year.¹

Under provisions of the Colorado River Compact, the power plant was authorized to use up to 34,100 acre-feet per year (AFY) from the 50,000 AFY allocated for use in Arizona's portion of the Upper Colorado River Basin,² consisting almost entirely of Navajo Nation lands. Under the 1968 Navajo Council Resolution that approved the use of this water for NGS operations, once the plant retired, the agreement's provisions were no longer in effect and rights to the use and control of NGS water are supposed to be "returned to the Navajo Tribe for their exclusive use and benefit."³

¹ Comments on the Draft Environmental Impact Statement for the NGS-Kayenta Mine Complex. Submitted by Grand Canyon Trust, Center for Biological Diversity and Sierra Club. Dec. 29, 2016.

² U.S. Bureau of Reclamation Contract No. 14-06-400-5033, January 1969, Article 7, page 6.
<https://docs.google.com/file/d/0BzAD-1g8I2r1N2M5M2FhMDYtMDI0Ny00MzFjLWlyODgtZjRiYzEyODMzM2Qz/edit?hl=en>

³ Navajo Council Legislation 108-68, Paragraph 6, p. 4.
<https://books.google.com/books?id=mTATAAAIAAJ&pg=PA48&lpg=PA48&dq=navajo+Resolution+C D-103-68&source=bl&ots=P59iCJYEm&sig=ACfU3U3locAoxN7YeNrmpXySGCxf0zbHQ&hl=en&sa=>

Historically, at full-scale operation, NGS burned around 8 million tons of coal per year, all of which was supplied by Peabody Energy's Kayenta Coal Mine on Black Mesa, situated on Navajo land about 90 miles east of the power plant in northeastern Arizona. Kayenta Mine covers approximately 44,000 acres (69 square miles). In 2018, the plant's last full year of operation, the three NGS units burned 6.4 million tons of coal,⁴ transported from the mine first via a conveyor to a loading station, then by electric train to the plant. Operations at Kayenta Mine consumed approximately 1,250 AFY of groundwater from the N-Aquifer each year for 45 years. The aquifer is the main source of drinking water on Black Mesa.⁶

Q. Does APS own shares of NGS and Cholla?

- A. Yes, APS owns a 14% stake (337 megawatts, nameplate capacity)⁷ in NGS plant and is responsible for a proportionate share decommissioning and remediation costs for the power plant and also a proportionate share of about 70% of the closure and reclamation costs associated with Kayenta Mine, the sole supply of coal for NGS.

At Cholla, APS is the majority owner and operator of the plant. APS owns 100% of Units 1-3. Unit 2 was retired in 2015 as part of a settlement agreement with EPA to reduce pollution from the plant.⁸ Unit 4 is wholly owned by PacifiCorp, a subsidiary of Warren Buffett-controlled Berkshire Hathaway, although APS has a seasonal power-sharing agreement with the company to purchase output during peak use in the summer. PacifiCorp announced in early 2020 that it would close down the unit by the end of the year because, a spokesman said, its continued operation is "no longer economic for PacifiCorp customers beyond 2020 when compared to other energy resource alternatives."⁹

[X&ved=2ahUKEwiJuMfTjYnIAhXQvJ4KHRxtDFEQ6AEwAHoECAoQAQ#v=onepage&q=navajo%20Resolution%20CD-103-68&f=false](https://www.eia.gov/electricity/data/eia923/X&ved=2ahUKEwiJuMfTjYnIAhXQvJ4KHRxtDFEQ6AEwAHoECAoQAQ#v=onepage&q=navajo%20Resolution%20CD-103-68&f=false).

⁴ U.S. Energy Information Administration, Form 923. <https://www.eia.gov/electricity/data/eia923/>

⁵ Arizona Republic. "Arizona coal generator to close in 2020, while another given lifeline as decline of plants across West continues." <https://www.azcentral.com/story/money/business/energy/2020/01/07/pacifcorp-close-generator-cholla-power-plant-northern-arizona/2829342001/>. Jan. 7, 2020.

⁶ U.S. Office of Surface Mining, Reclamation and Enforcement, Kayenta Mine Permit Renewal, 2015. https://www.wrcc.osmre.gov/initiatives/kayentaMine/2015Renewal/Kayenta_Mine_Enivonmental_Assesment.pdf

⁷ APS Annual Report, 2018.

http://s22.q4cdn.com/464697698/files/doc_financials/annual/2018/Annual-Report_2018_Web.pdf

⁸ Ibid.

⁹ Arizona Republic. "Arizona coal generator to close in 2020, while another given lifeline as decline of plants across West continues." <https://www.azcentral.com/story/money/business/energy/2020/01/07/pacifcorp-close-generator-cholla-power-plant-northern-arizona/2829342001/>. Jan. 7, 2020.

Q. What is the operational status of NGS and Cholla?

- A. NGS shut down the last of its three units in November 2019. The plant's five owners agreed in February 2017 on a plan to retire the power plant no later than December 2019.¹⁰ Subsequently, they negotiated an extension lease with the Navajo Nation to allow the plant to operate until that date.¹¹ The power plant received its last trainload of coal from its coal supplier, Peabody Energy, on August 26, 2019.¹² The first of the three units at NGS shut down on September 19, 2019.¹³ The last of the three units closed down permanently two months later, on November 18, 2019.¹⁴

APS shut down Cholla Unit 2 in 2015, as noted previously, to comply with air quality mandates by EPA. Ultimately, APS decided it was more economical to shutter the unit than to retrofit it with pollution controls. PacifiCorp announced in early 2020 that it would close down the unit by the end of the year because, a spokesman said, its continued operation is "no longer economic for PacifiCorp customers beyond 2020 when compared to other energy resource alternatives."¹⁵ APS had previously committed to retiring the remaining two units it owns at the plant by 2025 as part of the same settlement that resulted in the retirement of Unit 2.

Q. Please describe the public health impacts on local communities of operations at NGS and the coal mining complex on Black Mesa.

- A. There is substantial anecdotal evidence that decades of exposure to emissions from NGS has detrimentally impacted the health of the people of the Navajo Nation, leading to increased incidence of asthma and pulmonary problems,

¹⁰ SRP News Release.

https://www.srpnet.com/newsroom/releases/021317.aspx?TB_iframe=true&width=921.6&height=921. Feb. 13, 2017

¹¹ Final NGS Extension Lease between the Navajo Nation and NGS owners.

<https://www.usbr.gov/lc/phoenix/reports/NGS/EAFONSI/ExtLeaseNAVSRP.pdf>

¹² Arizona Republic, Aug. 26, 2019.

<https://www.azcentral.com/story/money/business/energy/2019/08/26/navajo-generating-sts-last-trainload-coal-mine-kayenta/2089822001/>

¹³ NGS Plant Manager Joe Frazier, as quoted in the Navajo Hopi-Observer, Oct. 1, 2019.

<https://www.nhnews.com/news/2019/oct/01/column-decommissioning-navajo-generating-station-p/>

¹⁴ SRP press release. Navajo Generating Station Permanently Shuts Down. Nov. 18, 2019.

<https://media.srpnet.com/navajo-generating-station-permanently-shuts-down/>

¹⁵ Arizona Republic. "Arizona coal generator to close in 2020, while another given lifeline as decline of plants across West continues."

<https://www.azcentral.com/story/money/business/energy/2020/01/07/pacificorp-close-generator-cholla-power-plant-northern-arizona/2829342001/>. Jan. 7, 2020.

heart disease and cancer. Unfortunately, there is scant quantitative evidence to back that up, as neither the owners of NGS nor federal and state health officials have ever bothered to invest in comprehensive health studies of impacted Navajo communities, preferring instead to deem the lack of data as evidence that there have been no health issues associated with the significant amounts of pollution emitted by NGS.

The incidence of asthma on the Navajo Nation, at around 20%, is about twice the national average-likely due to coal power generation.¹⁶

Other studies also indicate that air quality problems are indeed resulting in pulmonary health issues for Navajo populations, with similar estimates for asthma rates at two to three times higher on the Navajo Nation than in the general population. A medical journal report in 2018 found that "Navajo children living on the reservation have high rates of asthma prevalence and severity."¹⁷ The integrative literature review concluded that "both indoor and outdoor environmental risk factors commonly found on the Navajo reservation appear to be important determinants of asthma," but it also noted that "environmental influences ... are inadequately understood." It recommended future additional research examining both indoor and outdoor air pollution, including specifically from coal combustion.

Other health issues also have been linked to NGS. Health workers often relay reports of clusters of illnesses such cancer in communities downwind from the power plant. For example, NBC News recently observed that, "a nonsmoker recently came down with lung cancer, another contracted pancreatic cancer and a couple others report malignant growths in their stomachs."¹⁸ According to a report in ProPublica, EPA records include "tribal complaints of a doubling in cancer rates in the Navajo Nation since the generating station began operating, as well as worsening asthma."¹⁹

A summary study completed in 2013 found that across the entire Navajo reservation, rates for some cancers, including lung cancer, were substantially lower among Navajos than among whites in New Mexico and Arizona. But the

¹⁶ University of Arizona Asthma and Airway Disease Research Center. "\$8 Million Grant Aims to Improve Asthma Control Among Children in Navajo Nation." October 18, 2018. <https://airways.uahs.arizona.edu/news/2018/8-million-grant-aims-improve-asthma-control-among-children-navajo-nation>

¹⁷ Annals of the American Thoracic Society. "Environmental concerns for children with asthma on the Navajo Nation." June 2018. Pages 745–753. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6207133/#:~:text=The%20physical%20environment%20on%20the,relevant%20environmental%20determinants%20remains%20sparse>

¹⁸ NBC News. Lighting the West, Dividing a Tribe. Dec. 18, 2018. <https://www.nbcnews.com/specials/navajo-coal>

¹⁹ ProPublica. "End of the Miracle Machines: Inside the power plant fueling America's drought." July 15, 2015. <https://www.propublica.org/article/navajo-generating-station-colorado-river-drought>

same report also showed that the Navajo people suffered substantially higher rates of stomach, liver and kidney cancers.²⁰ Another study, comparing causes of death on the New Mexico side of the Navajo Nation against statewide data, found higher mortality rates from a number of cancers but lower rates caused by lung cancer and other pulmonary problems.²¹

According to an analysis conducted by the Clean Air Task Force in 2018, the pollution from NGS annually resulted in an estimated 26 deaths, 15 heart attacks, 184 asthma attacks, 16 hospital admissions or emergency room visits, 6 cases of chronic bronchitis, and 1,345 lost days of work.²²

Yet, despite strong evidence correlating various health problems with coal combustion and air quality, no authoritative long-term epidemiological study of the impacts of the power plant's emissions has ever been undertaken.

Q. Please describe the public health impacts on local communities of operations at Cholla.

- A. According to an analysis conducted by the Clean Air Task Force in 2018, the pollution from Cholla annually results in an estimated 6 deaths, 3 heart attacks, 40 asthma attacks, 4 hospital admissions or emergency room visits, and 296 lost days of work.²³

Q. Please describe the air pollution emitted by the operations of NGS.

- B. NGS was historically one of the largest sources of air pollution in the Southwestern United States. In 2018, the plant's three units emitted more than 3,500 tons of sulfur dioxide (SO₂), a main cause of acid rain; more than 12,000 tons of nitrous oxides (NO_x), which contribute to harmful ozone pollution and haze; and more than 14 million tons of carbon dioxide (CO₂) pollution, one of the main greenhouse gases causing climate disruption. Even after the installation of scrubbers, baghouses and other pollution controls to decrease SO₂ and NO_x emissions, NGS remained one of the largest point sources of those criteria pollutants in Arizona.

U.S. Environmental Protection Agency (EPA) data documented a litany of hazardous chemicals released by the plant during its decades of operation,

²⁰ Report: Cancer Among the Navajo: 2005-2013.
<https://www.nec.navajo-nsn.gov/Portals/0/Reports/Cancer%20Among%20Navajo%202018%20Spread.pdf>

²¹ Report: Navajo Mortality 2010-2013, New Mexico Portion of the Navajo Nation.
https://www.nec.navajo-nsn.gov/Portals/0/Reports/Navajo%20Mortality%20NM%20Portion%202010-2013_opt.pdf. At Page 66.

²² Data reflects health effects based on 2016 emissions. http://www.catf.us/fossil/problems/power_plants/

²³ Ibid.

including arsenic, mercury, and chromium. Data from the 2014 National Emissions Inventory for NGS are summarized below.²⁴

Company_Name	Salt River Project		
Site_Name	NAVAJO GENERATING STATION		
NAICS_Code	221112		
Facility_Type	Electricity Generation via Combustion		
Acetaldehyde	4,891	Pounds	
Arsenic	455	Pounds	
Benzene	11,172	Pounds	
Chromium (VI)	103	Pounds	
Manganese	1,823	Pounds	
Mercury	184	Pounds	
Nickel	4,945	Pounds	
Particulates - PM10	4,108	Tons	
Particulates - PM2.5	2,833	Tons	

Q. Please describe the air pollution emitted by the operation of Cholla.

A. According to federal emissions data, the Cholla plant emitted 4.2 million tons of CO₂, 1,809 tons of sulfur dioxide and 4,030 tons of nitrogen oxides in 2018.²⁵

Q. Please describe the water pollution issues that resulted from the operation of NGS.

A. In addition to the hazardous chemicals emitted by the smokestacks at NGS, the facility also generates significant amounts of hazardous materials that are disposed of on-site, mainly in the millions of tons of coal-ash waste that was generated by the plant annually.

According to the EPA's Toxics Release Inventory, releases on site in 2017 of hazardous chemicals, including carcinogens, totaled 2.4 million pounds, as detailed in the chart below.²⁶

²⁴ U.S. Environmental Protection Agency. 2014 National Emissions Inventory Data.

<https://www.epa.gov/air-emissions-inventories/2014-national-emissions-inventory-nei-data>

²⁵ U.S. Environmental Protection Agency, Emissions and Generation Resource Integrated Database (EGRID).

²⁶ U.S. Environmental Protection Agency. Toxics Release Inventory Explorer.

https://enviro.epa.gov/triexplorer/tri_release.chemical

SALT RIVER PROJECT NAVAJO GENERATING STATION. 5 MI E OF PAGE ON HWY 98, PAGE ARIZONA 86040 (COCONINO)	1,345,233
ARSENIC COMPOUNDS (2211 – Electric Utilities)	12,266
BARIUM COMPOUNDS (2211 – Electric Utilities)	990,451
BENZO(G,H,I)PERYLENE (2211 – Electric Utilities)	0
CHROMIUM COMPOUNDS(EXCEPT CHROMITE ORE MINED IN THE TRANSVAAL REGION) (2211 – Electric Utilities)	48,393
COBALT COMPOUNDS (2211 – Electric Utilities)	11,024
COPPER COMPOUNDS (2211 – Electric Utilities)	17,665
DIOXIN AND DIOXIN-LIKE COMPOUNDS (2211 – Electric Utilities)	**
HYDROCHLORIC ACID (1995 AND AFTER "ACID AEROSOLS" ONLY) (2211 – Electric Utilities)	9,847
HYDROGEN FLUORIDE (2211 – Electric Utilities)	13,853
LEAD COMPOUNDS (2211 – Electric Utilities)	18,466
MANGANESE COMPOUNDS (2211 – Electric Utilities)	107,404
MERCURY COMPOUNDS (2211 – Electric Utilities)	290
NAPHTHALENE (2211 – Electric Utilities)	38
NICKEL COMPOUNDS (2211 – Electric Utilities)	30,974
POLYCYCLIC AROMATIC COMPOUNDS (2211 – Electric Utilities)	7
SELENIUM COMPOUNDS (2211 – Electric Utilities)	9,727
SODIUM NITRITE (2211 – Electric Utilities)	15,984
SULFURIC ACID (1994 AND AFTER "ACID AEROSOLS" ONLY) (2211 – Electric Utilities)	11,580
VANADIUM COMPOUNDS (2211 – Electric Utilities)	23,884
ZINC COMPOUNDS (2211 – Electric Utilities)	23,380
Total	2,373,195

Groundwater pollution has been documented at the NGS site and remediation of this contamination will be an ongoing activity, with monitoring lasting decades. A geologic and hydrogeologic analysis conducted as part of the 2016 Environmental Impact Statement (EIS) for NGS²⁷ concluded that there is measurable contamination at the plant site, mainly resulting from on-site disposal of coal-combustion waste. The analysis notes that:

"The NGS plant is located upon a geologic unit known as the Carmel Formation that did not contain groundwater prior to operation of the NGS plant. Unintentional leakage of industry-impacted water from this "zero liquid

²⁷ Executive Summary. Evaluation and Professional Opinions Regarding Geologic and Hydrogeologic Aspects of the 2016 DEIS as it Pertains to Scheduled Facility (NGS) Closure. Prepared by Groundwater Management Associates Inc. June 2017.

discharge” (ZLD) facility has formed a ‘new’ aquifer in the Carmel Formation, and groundwater is now located as little as five (5) feet below the NGS plant... NGS is actively pumping wells tapping the Carmel Formation to remove contaminated groundwater that contains concentrations of heavy metals, sulfate, and total dissolved solids (TDS), and some of these concentrations exceed federal water-quality standards. For example, water pumped from one well in October of 2015 contained selenium, a toxic heavy metal, at a concentration almost four times (4x) the federal water-quality standard. Shallow groundwater is being pumped continuously from the Carmel Formation because it is a source of mobile contamination that can impact the quality of groundwater in the regionally important N Aquifer.... The full extents of the industry-produced groundwater in the Carmel Formation are not defined, despite the fact that this problem has existed since at least 1979.”

The analysis further notes that there are contamination pathways, via geologic fractures, for the leaching coal-ash waste chemicals at NGS to migrate into the N-Aquifer, which is the main drinking water supply for the Black Mesa region, adding that, “Fractured-rock aquifers are notoriously difficult to characterize, monitor and remediate once they become contaminated.”²⁸

It also dismisses federal claims in the Draft EIS that the risk of leachate impacting the N-Aquifer is minimal because the coal ash is disposed of in a “dry” form. Rather, the analysis points out, “NGS intentionally placed approximately 200 to 350 million gallons of ‘plant process water’ on the coal ash within the first decade of operation, and at least 70 million gallons of water falls on the coal ash every year as rain and snow,”²⁹ all making it far from a dry site.

Q. Please describe the impact on water levels and water availability that resulted from the operations of NGS and the Kayenta coal complex.

- A. As previously noted, NGS consumed up to 34,000 acre-feet of Colorado River water per year for pollution control and cooling – in a region where annual precipitation is less than 10 inches a year.³⁰

Groundwater use on Black Mesa for mining – both for the Kayenta coal mining complex and for the adjacent Black Mesa Mine, which provided coal for the Mohave Generating Station 270 miles away in southern Nevada until its closure in 2005 – has had measurable effects on the N-Aquifer, the sole supply of drinking water on Black Mesa.

An assessment of the impacts of groundwater pumping on Black Mesa in 2006 determined that there were “signs of material damage to the aquifer,” and also

²⁸ Ibid. Page 2.

²⁹ Ibid. Page 2.

³⁰ <https://www.timeanddate.com/weather/@5306240/climate>

that “the government’s failure to adequately monitor the damage can be attributed to a flawed modeling system that obscures on-site evidence of physical damage.”³¹ A review of hydrological assessments used by Peabody and the federal government determined that total withdrawals at Kayenta Mine have exceeded the rate of natural recharge by approximately 21,000 to 53,000 acre-feet during the 30 years analyzed.³²

The Black Mesa Mine, until its closure a decade and a half ago, was an egregious exploiter of N-Aquifer water. In one of the most nonsensical set-ups imaginable in such an arid region, the mine pumped more than 1 billion gallons of groundwater a year from the aquifer to mix with coal to create a slurry that was sent via pipeline to the Mohave plant in Nevada. Several years after the mine closed, water levels that had been drying out began to increase again, according to the U.S. Geological Survey.³³

Q. Are there water-related impacts from the operation of Cholla?

- A. Yes, operations at Cholla have impacted water in northeastern Arizona, both in terms of quantity and quality. There are seven surface impoundments located at the plant that are used to manage disposal of wastewater and coal ash waste.³⁴ Significant groundwater contamination has been documented in at least four of those impoundments – ash landfill, bottom ash pond, fly ash pond and sedimentation pond, all unlined. Contaminants measured above regulatory levels include a number of toxic chemicals – arsenic, boron, chromium, cobalt, fluoride, lithium, molybdenum, radium, selenium, sulfate.³⁵

III. The Impacts of NGS and Cholla on Local Jobs and the Economy

Q. What is the importance of coal to the Navajo Nation?

- A. Coal has been an important economic driver for the Navajo Nation for the last half century. All three of the power plants referenced in the Citizen Groups

³¹ Drawdown: An Update on Groundwater Mining on Black Mesa. Natural Resources Defense Council Research Paper. March 2006. <https://www.nrdc.org/sites/default/files/draw.pdf>.

³² Review of Peabody Western Coal Company’s (1984–2004) Determination of Probable Hydrologic Consequences for the Black Mesa-Kayenta Coal Mine. Dr. Daniel Higgins. June 2011.

³³ As reported by NBC News. <https://www.nbcnews.com/specials/navajo-coal>

³⁴ Arizona Dept. of Environmental Quality. Draft fact sheet for the issuance of Aquifer Protection Permit No. P-100568. https://www.azdeq.gov/sites/default/files/factsheet_aps.pdf

³⁵ Earthjustice. https://earthjustice.org/features/map-coal-ash-contaminated-sites?gclid=CjwKCAjwn9v7BRBqEiwAbq1Ey_1qAtD0ca5457Ggj-D9KPXGkk57ablurv4Obr_4zSTmABGbUopj1KxoCImwQAvD_BwE

testimony have been in operation for decades, bringing jobs and economic development to both tribal and non-tribal communities. FCPP was the first to come online in 1963, followed by SJGS in 1973 and then NGS in 1974. FCPP and NGS are both situated on Navajo land, which is leased by the owners from the Navajo Nation for plant operations. Their respective coal suppliers, Navajo Mine and Kayenta Mine, also sit on the Navajo Nation and provide the tribe with coal royalties. SJGS sits just outside of the Navajo Nation near FCPP and is thus still an important cog in the Navajo economy.

As of 2018, there were about 550 combined workers employed at SJGS and the San Juan Mine; about half of whom were Navajo.³⁶ At FCPP and the Navajo Mine, about 80% of the combined workforce of 800 employees was Navajo.³⁷ And of the 800 employees working at NGS and the Kayenta Mine in 2018, 83% were Navajo.³⁸

Annual wages and salaries of power plant employees are estimated to average approximately \$100,000 per employee, and around \$150,000 when health and retirement benefits are factored in.³⁹

Royalty payments from coal mining, lease payments from utilities and other taxes and fees all bring in substantial revenue for the Navajo Nation. According to then-Speaker of the Navajo Council, LoRanzo Bates, FCPP and NGS combined contribute about \$70 million of the Navajo government's \$220 million annual gross budget.⁴⁰

Q. Please describe the economic and local jobs impacts resulting from the closure of NGS and surrounding coal complex.

- A. The retirement of NGS and closure of the Kayenta Mine will have noticeable and severe effects on both tribal employment and revenue. Their closures will also, "Deprive the Navajo reservation of its two largest non-governmental employers," as noted in an NBC News report.⁴¹

Both the Navajo and the Hopi have derived significant portions of their general fund budgets from coal for decades, relying on lease and royalty income and

³⁶ As reported in the Albuquerque Journal, "Coal's decline in power production hits Navajo Nation hard." August 20, 2018.

<https://www.abqjournal.com/1210759/coins-decline-in-power-production-hits-navajo-nation-hard.html>

³⁷ Ibid.

³⁸ Ibid.

³⁹ From the report "Regional Economic Assessment & Strategy for the Coal-Impacted Four Corners Region," prepared for the Northwest New Mexico Council of Governments, February 2017.

http://www.nwnmcog.com/uploads/1/2/8/7/12873976/final_highland_economics_report_2017.pdf

⁴⁰ As quoted in the Albuquerque Journal, August 20, 2018.

⁴¹ NBC News. Lighting the West, Dividing a Tribe. Dec. 18, 2018.

<https://www.nbcnews.com/specials/navajo-coal>

other taxes and fees for revenue that supports a variety of public services. Navajo Nation President Jonathan Nez and Vice President Myron Lizer acknowledged on social media the impacts that the closure of NGS and the Kayenta Mine will have on the Navajo government budget:

*“For the upcoming new fiscal year that begins on Oct. 1, the current revenue projection is approximately \$158 million, which is a \$14 million decrease from the current fiscal year budget of \$172 million. For fiscal year 2021, the Nation’s revenue projection is expected to drop significantly to \$132 million due to the closure of the Navajo Generating Station and Kayenta Mine.”*⁴²

Per this statement, the closure of NGS and Kayenta Mine will reduce the Navajo annual budget by 23% (\$40 million) for fiscal year 2020.

The impacts will be even more severe for the Hopi, who rely on mining royalties for about 85% of its annual budget.⁴³ (NGS does not occupy Hopi land, so the tribe does not receive any lease revenue from the plant.)

In terms of employment, NGS operator Salt River Project (SRP) has put into place a redeployment program that has guaranteed jobs to any employee who wants to stay with the company, although that could entail relocation. As of September, nearly 300 of the workers at NGS had accepted redeployment offers at other SRP facilities. Another 75 chose retirement. And for those who opt to remain on the Navajo Nation, SRP notes that the decommissioning contractor could hire as many as 80 local people to assist with plant retirement efforts.⁴⁴

Peabody Energy, however, has offered no updates on its workforce, redeployment, job retraining or opportunities for employment in mine reclamation activities. The full workforce at Kayenta Mine was laid off in phases, with the last workers let go in August.⁴⁵

⁴² Official Facebook of the Nez-Lizer Administration. May 14, 2019.
<https://www.facebook.com/1717870175145185/posts/2215709062027958?s=100002256817013&v=i&sfns=mo>

⁴³ Institute for Energy Economics and Financial Analysis. “As Coal Economy Collapses, Imminent Public Budget Crisis Confronts Hopi-Navajo Tribes.” May 2019.
http://ieefa.org/wp-content/uploads/2019/05/Imminent-Public-Budget-Crisis-Confronts-Hopi-Navajo-Tribes-With-Coal-Economy-Collapse_May-2019.pdf

⁴⁴ NGS plant manager Joe Frazier, in the Navajo-Hopi Observer. “Decommissioning of Navajo Generating Station process begins - here’s what to expect.” Oct. 1, 2019.
<https://www.nhnews.com/news/2019/oct/01/column-decommissioning-navajo-generating-station-p/>

⁴⁵ Cronkite News. “Kayenta Mine layoffs hit, as Navajo Generating Station closure looms.” Aug. 23, 2019.
<https://cronkitenews.azpbs.org/2019/08/23/kayenta-mine-layoffs-hit-as-navajo-generating-station-closure-looms/>

Q. How do you expect these economic declines to be felt on the Navajo Nation?

A. Economically, the Navajo Nation has always faired poorly compared with the general populations in both Arizona and New Mexico. Prosperity was supposed to be a key part of the promise of NGS and the other power plants built on or near tribal land. FCPP, SJGS, NGS, and their respective mines have indeed brought good-paying jobs to the isolated areas directly around them. The jobs and benefits provided to the many workers who who've built lives and supported families should not be discounted. In the same vein, though, it would be a disservice not to recognize that the rewards promised to the Navajo and Hopi have never materialized. By nearly every demographic measure, the Navajo are worse off than others in the Southwest. As the chart below shows, the Navajo have substantially lower median household incomes, suffer higher unemployment and poverty rates, are forced to rely on government services for their well-being in great numbers, or, as in the case of health insurance, to go without —and all by substantial margins.⁴⁶

	Arizona	New Mexico	Navajo Nation
Median Household Income	\$56,581	\$46,744	\$26,693
Unemployment Rate	5.8%	6.6%	16.1%
% of Families Below Poverty	10.7%	15.2%	33.2%
% of Households Receiving Food Stamp Benefits	10.8%	17.4%	31.2%
% of Population Lacking Health Insurance	10.1%	9.1%	22.1%

The loss of hundreds of jobs that pay 4-5 times the media income, combined with a higher-than-normal percentage of people relying on government services and the expected decrease in Navajo government revenue and services, all add up to consequences that could be felt deeply. As one Navajo chapter official noted:

“The coal mine and the power plant have allowed our community to be self-sufficient for many years. If they close, it will have a devastating impact on us and the surrounding communities... [G]iven the tribe’s huge dependence on coal, a lot more assistance may be needed in coming years. We’re one of the most impacted chapters on the Navajo Nation.”⁴⁷

– Lucinda Bennalley, Vice President of Nenahnezad Chapter, near SJGS

Of course, as Bennalley notes, additional services will be needed, along with job training and resources for communities to plan for a post-coal future, all of which can and should be supported by transition funding as recommended

⁴⁶ Data from the U.S. Census Bureau’s American FactFinder, 2017.
<https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>

⁴⁷ Quoted in the Albuquerque Journal, August 20, 2018.

by the Citizen Groups.

Q. Will there be significant job and economic impacts related to the closure of Cholla?

A. Around 200 workers are employed at the Cholla plant.⁴⁸ It is not known how many of those workers are Navajo, but the assumption is that because the plant is located just a few miles from the Navajo reservation, a high percentage are filled by Navajo workers. A proportional share of those jobs will be cut when Unit 4 shuts down this year, and the remainder will disappear when APS retires the remaining two units in 2025.

IV. The Impacts of FCPP on Tribal Communities and Jobs

Q. How have recent power plant retirements impacted employment in the region?

A. As noted in Mike Eisenfeld's testimony, FCPP retired three of the five generating units six years ago; and the neighboring SJGS closed two of its four units in late 2017. These retirement decisions have caused significant job losses in the region, as shown in the table below.⁴⁹

⁴⁸ Arizona Republic. "Arizona coal generator to close in 2020, while another given lifeline as decline of plants across West continues"
<https://www.azcentral.com/story/money/business/energy/2020/01/07/pacificorp-close-generator-cholla-power-plant-northern-arizona/2829342001/>. Jan. 7, 2020.

⁴⁹ Albuquerque Journal. August 20, 2018.

**Table 2-3: Reduced Generation and Employment:
NW New Mexico Coal-Fired Power Generation Plants**

Power Plant	Peak Generation Capacity			Reduced Generation Capacity		Change in Jobs	Change in Labor Income (including Benefits), Millions 2016\$
	Generation Capacity (MW)	Jobs	Jobs /MW	Generation Capacity (MW)	Jobs		
San Juan Generating Plant	1,683	~400	0.24	847	~200 ¹	-200	-\$30.0
Four Corners Generating Plant	2,104	~500	0.24	819	~350 ²	-150	-\$22.5
Escalante Generating Station	247	~120	0.49	247	~120	0	
Total	4,034	~1,020	0.25	1,913	~670	-350	-\$52.5

Note: Totals may not sum due to rounding.

1/Estimated assuming that the jobs per MW of generation capacity remains constant.

2/Based on Evans, James, and Madley (2013) study of Four Corners Generating Plant employment and income for units 1, 2, and 3.

Tables above and below from the report, "Regional Economic Assessment & Strategy for the Coal-Impacted Four Corners Region," prepared for the Northwest New Mexico Council of Governments, February 2017.

Similar impacts resulted from the mining cutbacks that came with the retirement of the FCPP and SJGS units, as shown in the chart below. While there is no data specific to the impacts on Navajo workers, it's logical to assume that about half of the \$66 million in lost wages tied to SGJS and the San Juan Mine, and 80% of the \$44.1 million in losses from FCPP, would have fallen on tribal workers. This conservatively adds up to at least \$68.3 million in lost Navajo income.

**Table 2-4: Reduced Generation and Employment:
NW New Mexico Coal Mines**

Coal Mine	Peak Production			Reduced Production		Change in Jobs	Change in Labor Income (including Benefits), Millions 2016\$
	Annual Production ¹ (1,000 tons)	Jobs	Jobs/ 1,000 Tons	Annual Production (1,000 tons)	Jobs		
San Juan Mine	6,000	500	0.08	~3,000	~250	-250	-\$30.0
Navajo Mine	7,200	500	0.04	~4,800	320	-180	-\$21.6

- Q. What are the anticipated impacts to employment, income, and the local and regional tax base if coal-fired power generation continues to decline?**
- A. The 2017 analysis conducted for the Northwest New Mexico Council of Governments estimates the following impacts in the region as coal-fired power

generation continues to decline:⁵⁰

- The loss of 940 direct jobs and \$122.1 million in annual income, a drop of approximately 1-2% of the region's employment and income base. Approximately 85% of this impact will be felt in San Juan County.
- The loss of 2,260 to 3,180 indirect jobs and \$195.2 to \$213.3 million in annual income in other economic sectors. Approximately 90% of this impact will be felt in San Juan County.
- The loss of \$43.3 million in annual tax receipts across local, tribal and state government. Thirty-four percent of this revenue loss will impact the state of New Mexico, 56% will impact the Navajo Nation, and 10% will impact local governments in Northwest New Mexico.

Q. How do you expect these economic declines to be felt on the Navajo Nation?

- A. Any economic impacts from the closure of SJGS and further ramping down of the FCPP's operations and its eventual closure will only be magnified on the Navajo Nation.

With a third of Navajo households living below the poverty line and on food stamps, median income at roughly half of what it is for the general population in both Arizona and New Mexico, Navajo unemployment double the rate in Arizona and New Mexico, and one out of every five Navajo lacking health insurance, the expected loss of jobs from the closure of SJGS and FCPP will result in even greater economic dislocation on the Navajo Nation than in the surrounding non-tribal areas.

⁵⁰ "Regional Economic Assessment & Strategy for the Coal-Impacted Four Corners Region," prepared for the Northwest New Mexico Council of Governments, February 2017.

V. Defining a Just and Equitable Transition

Q. What is meant by a “Just and Equitable Transition?”

- A. The concept of a Just and Equitable Transition is not new. It arose as part of social justice movements in the 1970s and has since evolved. In relation to the energy sector, it is, at its most basic, the concept that the companies owning and operating power plants and coal mines, many of which are the economic backbones of the communities they are situated in, have a corporate responsibility and ethical obligation to provide financial support and other aid when they make plans to close down facilities and to assist these communities in developing post-coal economies.

Power plants and mines, especially in the West, are often the largest employers in a community, and they often are one of the largest sources of municipal, county and tribal tax revenue, providing core funding for things like emergency and social services and school districts. When plants and mines are shuttered abruptly, the economic disruptions are painful, resulting most directly in heavy job losses and precipitous drops in tax revenue. The ripple effects don't stop there, however. Because community prosperity is so directly linked to plant and mine operations, closures force a longer-term economic reckoning about the kinds of businesses and industries that will help communities survive beyond coal. That kind of rebuilding cannot happen overnight. It requires years of planning.

In a Just and Equitable Transition, utilities and mine owners are held accountable to communities that gave so much in the name of supplying inexpensive electricity to ratepayers and profits to shareholders. A Just and Equitable Transition means communities that are economically dependent on coal are not left behind when executives make business decisions to close down power plants and mines, something that is happening with increasing frequency as we shift to cleaner energy sources. A Just and Equitable Transition means that those who have suffered the most direct environmental and health impacts of nearby mining and coal combustion are compensated in ways that lead to basic improvements in their standard of living. And it means that utilities and mine operators must assist communities through financial and technical assistance in their transition to new modes of post-coal economic development.

Q. Why is Just and Equitable Transition an important context now?

- A. As discussed in more detail in Mike Eisenfeld's testimony and David Schlissell's testimony, there are enormous economic shifts reshaping the way we get our electricity, in Arizona and New Mexico, across the West and throughout the

nation. In most instances, it is now cheaper to build new wind, solar and energy storage projects than it is to keep operating existing coal plants. As a result, utilities are having to completely rethink their business models and adjust their resource planning. For many, that means closing down plants that are no longer competitive, often decades earlier than anticipated – with the mines that supply them soon to follow. The impact of these market shifts is impossible to ignore. In 2010, coal generated more than 50% of the electricity in the United States.⁵¹ This year, coal's share of power generation will fall below 20% as it is swiftly displaced by lower cost renewables and fracked gas.⁵² In Arizona, just in the last year, APS and the state's other major biggest utilities have dramatically accelerated the retirement dates for some of the biggest power plants in the West.

Such swift and large-scale carries unavoidable repercussions. It is the people, communities and businesses built up around coal that most acutely feel the consequences of boardroom decisions to shut down power plants and mines. These early closures – which to date have been foisted upon communities with little notice, planning or support – are like having the rug pulled out from under them. Utilities such as APS can and must do better by those who have made their operations so profitable.

Q. What are the core elements of a Just and Equitable Transition?

A. It is not merely enough for a utility to simply cut a check and think that is sufficient. For a Just and Equitable Transition to provide adequate support for communities to both weather the immediate disruption of a plant or mine closure and to plan for a better future, utilities and mining companies must commit to assistance and planning with the following features, at minimum:

1. **Transparency and advance notice.** Just and Equitable Transition starts long before retirement decisions are made. Utilities and mining companies must be up front with the communities they operate in about today's changing economic realities and be transparent about their plans. It is critical for stakeholders to be informed with adequate advance notice – measured in years – that will allow them to begin planning for the economic shock that comes with plant and mine closures and for building the economic future that will come afterward.
2. **Community equity in the transition process.** The people, businesses, organizations and agencies that are most affected by plant closures, and

⁵¹ Data on previous coal peneration

⁵² IEEFA projections

who know their own communities most intimately, must be at the forefront of decision-making for any economic transition.

3. **Re-employment, job/skills training and education.** Plant and mine workers will be most directly and immediately impacted by closure decisions, and utilities and mining companies have an obligation to their workforces to provide a pathway to extended or new careers.
4. **Community financial support/assistance.** One of the most far-reaching and long-term consequences of a plant or mine closure is lost revenue to local and tribal governments and school districts. Utilities must provide funding dedicated to cushioning the blow to budgets for impacted government services.
5. **Local development of replacement energy and transmission projects.** As utilities remove fossil fuel capacity from their portfolios, they are looking to replace it with energy efficiency, storage and renewable energy resources. An important part of transition support must come through utility commitments to develop and/or partner on new clean energy projects near retired facilities, thus creating fair wage jobs, new career opportunities and replacement sources of tax revenue.
6. **Economic redevelopment and diversification assistance.** Reinventing a local economy, even a small one, is a complex endeavor that will not happen overnight. The planning for such a process and the diverse interests of numerous stakeholders – local business and industry, organized labor, advocates, educators, elected officials, regional economic development agencies, clean energy developers and academics, not to mention the utilities themselves – requires convening an inclusive process to bring all these voices together with the aim of attracting new business and development will require dedicated funding and participation.
7. **Decommissioning, remediation and reclamation activity.** While power plants and mines create jobs and tax revenue, they also have disproportionate harmful impacts on land, air and public health, both on site and in surrounding communities. Power plants and mines also consume massive amounts of water. A Just and Equitable Transition

requires appropriate funding to right environmental damages and to develop plans for freed up water.

8. **Local hiring preferences.** Whether it is development of new clean energy projects or cleanup of existing facilities, closures create potential for hundreds of jobs with work spanning several years. It may be financially expedient for companies to bring in itinerant workforces for these jobs, but a Just and Equitable Transition demands that hiring preferences be given to local workers most directly impacted by closure decisions.
9. **Access to electricity and water.** Especially in the case of tribal communities, the long-promised economic benefits of allowing mines and power plants to be sited on their land never materialized. On or near the Navajo Nation, for example, nearly a third of the tribe's households lack access to electricity or running water despite the presence of four of the largest power plants in the West. Utilities should atone for this embarrassing injustice by including funding to help bring power and water to under-served homes as part of their transition commitments.
10. **Participation.** A Just and Equitable Transition demands a constructive conversation and systematic process to determine how financial support and technical assistance can and should be used most effectively. Because utilities and mining companies have been a part of community fabric for so long, it is incumbent on them to continue their participation as key stakeholders in an inclusive transition planning process.

Q. Has APS provided support to tribal and nontribal communities impacted by closures of plants it owns or operates?

- A. No. To date, neither APS nor any of its ownership partners in FCPP, NGS, or Cholla have made any commitments or provided any financial support that would be considered part of a just and equitable transition as we define it in these proceedings. In fact, in response to discovery questions presented to APS by the Citizen Groups requesting "materials that APS has written, presented, developed, provided, and/or published in the last five years on Just transition," the company objected and did provide any material documentation.⁵³

⁵³ APS response to Citizen Groups first set of data requests, Question 1.5. March 6, 2020.

Despite contending that it “is open to engaging in a collaborative dialogue with stakeholders to examine possible strategies for mitigating the impacts of plant closures and continuing partnerships with local communities,” APS did not provide any communications, memos or documents demonstrating that it has made effort to that effect.

Earlier this year, a team at APS began communicating with a coalition of advocates that includes representatives from the Citizen Groups and other organizations about finding common ground on the issue of providing transition assistance for what it calls coal-impacted communities. While we are encouraged by this first step, these conversations, which began months ago, so far have amounted to little more than introductory conversations and emails. There has been zero public commitment to a just and equitable transition plan for any of the three coal plants relevant to this rate case. During this dialogue, APS has suggested informally that they do not consider NGS as part of their present or future conversations on just and equitable transition, despite the enormous economic impact its closure had on the Navajo Nation and Hopi Tribe less than a year ago.

Q. Are you aware of any internal policies or mandates that would prevent APS from making commitments to a just and equitable transition for NGS?

A. With specific regard to NGS and just and equitable transition, APS has consistently maintained that because “SRP, not APS, is the sole operator and majority owner of NGS” that “SRP is in the best and most appropriate position to address this request as to NGS.”⁵⁴ However, the Citizen Groups completely disagree with the contention that any sort of contractual consensus requires APS to defer to SRP on just and equitable transition for NGS. While it would be beneficial to have all plant owners – whether at NGS, FCPP or Cholla – aligned in addressing just and equitable transition, as we have noted in other proceedings, “the absence of a grand bargain between them does not obviate the responsibility for each individual plant owner to take action when and where it can.”⁵⁵ APS can and should act on its own behalf to provide just and equitable transition assistance. There are no contractual arrangements of other agreements that the Citizen Groups are aware of that would preclude APS or

⁵⁴ Ibid.

⁵⁵ Citizen Groups’ post hearing brief in Commission Docket No. E-01933A- 19-0028.
<https://docket.images.azcc.gov/E000008043.pdf>. Page 6.

another utility from confronting just and equitable transition as an internal matter of corporate responsibility.

It's entirely for the above reasons that the Citizen Groups have intervened in previous rate case dockets and are doing so again in this one. While the issue of a just and equitable transition finally seems to be grabbing the attention it deserves, there so far has been no voluntary commitments from the utilities regulated by the Commission to make just and equitable transition a priority and to dedicate resources to it. Given the ease with which APS already seems to have put NGS in its rearview mirror, we remain highly concerned that without a mandate from the Commission, the long history of inaction on this issue will continue. Retirement dates for APS's coal plants will come speeding at the impacted tribal and nontribal communities with no planning or assistance in place, and ultimately they will be left devastated. Six coal units in which APS has ownership shares are now closed, the first being retired seven years ago. And they have seen no support that could even be close to being characterized as a just and equitable transition. It is up to the Commission to help ensure that these communities have an opportunity to create a prosperous future.

Q. Has the Commission begun to address the issue of just and equitable transition?

- A. Yes. In several recent actions, the Commission has shown an openness to engaging more deeply on the issue of just and equitable transition and confronting the reality of accelerated retirement dates for coal plants and the economic impacts such decisions will have for a number of communities.⁵⁶

The first notable instance of the Commission's interest in the issue came in the draft rule for APS's previous rate case, Docket No. E-01345A-16-0123, in which the Commission staff wrote in support of a "transition to assist communities dependent on coal" including "a fund of several million dollars to assist the Navajo communities in transitioning to a future that is not heavily dependent on coal."⁵⁷ The Commission did not make a final ruling on the draft order, however.

⁵⁶ Comments submitted by Commission Chairman Bob Burns requesting a response from APS, submitted in Docket No. E-01345A-19-0236 on August 11, 2020.

<https://docket.images.azcc.gov/E000008353.pdf>

⁵⁷ ACC Staff Post-Hearing Brief in Docket No. E-01345A-16-0123, Page 1,

<https://docket.images.azcc.gov/0000192391.pdf>

More recently, there have been two encouraging developments. In August, Commission Chairman Bob Burns requested information from APS in this docket that recognizes the economic realities of looming coal plant closures on communities. Chairman Burns asked APS to model a number of scenarios looking at various methodologies and timelines – 12 in all – for “stranded costs that need to be recovered.” In all 12 of those analyses, Burns asked APS to include “a detailed transition plan for the local community impacted by the early closure of this generating plant.”⁵⁸

In a subsequent follow-up letter on Sept. 1, Chairman Burns expanded his request to include a retirement date for FCPP as early as 2023 and to also run all the same modeling, including transition planning, for Cholla.⁵⁹

Most recently, the Commission addressed the importance of just and equitable decision in a ruling in favor of APS’s energy efficiency programming. In a 3-2 vote of approval, the Commission ordered that “as part of its corporate obligations to support a just and equitable transition of communities impacted by early power plant closure, Arizona Public Service Company shall within sixty (60) days develop and file for the Commission’s review and approval, a Tribal Energy Efficiency Program proposal and budget to implement energy efficiency projects with Navajo and Hopi tribal communities impacted by the closure of coal-fired power plants that Arizona Public Service Company owns or operates, including Navajo Generating Station, Four Corners Power Plant and Cholla Power Plant.”⁶⁰ The historic decision marked the first time the Commission has taken an official action recognizing that utilities have a responsibility to provide funding and assistance to communities impacted by early power plant closures.

VI. Recommendations to Ensure a Just and Equitable Transition as Part of This Proceeding

Q. What do the Citizen Groups recommend to ensure a “just and equitable transition” as part of this proceeding?

⁵⁸ Ibid.

⁵⁹ Comments submitted by Commission Chairman Bob Burns requesting a response from APS, submitted in Docket No. E-01345A-19-0236 on Sept. 1, 2020. <https://docket.images.azcc.gov/E000008707.pdf>

⁶⁰ Arizona Corporation Commission Proposed Amendment No. 5, submitted by Commissioner Sandra Kenney in Docket. No. E-01345A-19-0088. <https://docket.images.azcc.gov/E000009058.pdf>. Sept. 18, 2020.

A. We make the following recommendations to help ensure a just and equitable transition as part of this proceeding.

1. APS should establish two separate Transition Funds to provide financial resources to the communities impacted by the closure of FCPP, NGS and Cholla. Specifically, APS should commit at least \$210 million to a just and equitable transition fund to be allocated proportionally across the tribal and non-tribal communities in which operates in both New Mexico and Arizona. In intervenor testimony in previous rates cases before the Commission (for APS in Docket No. E-01345A-16-0123 and for TEP in Docket No. E-01933A-19-0028), the Citizen Groups had recommended funding based on a formula that average commitments from other utilities and in other states toward just and equitable transition efforts. The methodology was adapted on the grounds that there were few examples nationwide to use as a basis for determining the level of support that utilities should contribute. At the time, the Citizen Groups were the only voices advocating for utilities to commit to funding just and equitable transition for tribal communities in Arizona and New Mexico.

Since then, a number of other utilities across the country have, as part of coal plant retirement decisions, committed funding to a just and equitable transition for impacted communities. Most directly relevant is Public Service of New Mexico, which strongly supported the passage of a measure in the 2019 legislative session that included robust transition support. The Energy Transition Act, signed into law by Gov. Michelle Lujan Grisham in March 2019,⁶¹ dedicates \$40 million to transition, which equates to just over \$100,000 per megawatt for the utility's 43% ownership in the two units still operating at SJGS.

Earlier this year, Navajo President Jonathan Nez and Hopi Tribal Chairman Timothy Nuvongyoama submitted separate comments in TEP's rate case laying out a similar funding level for the retirement of the utility's coal plants, which like APS, include share in NGS and FCPP, as well as a stake in San Juan Generating Station, located just off the Navajo reservation in northwestern New Mexico. The tribal leaders provided reasoned approaches for why TEP should contribute funding of \$100,000 per megawatt of peak ownership in the plants it was retiring. The Citizen Groups have reviewed the comments submitted by both tribal leaders and agree that the funding level aligns with the amount allocated by PNM for just transition and we conclude that the same approach should be applied to APS as an investor-owned

⁶¹ Office of Gov. Michelle Lujan Grisham Press Release. "Governor signs landmark energy legislation, establishing New Mexico as a national leader in renewable transition efforts." <https://www.governor.state.nm.us/2019/03/22/governor-signs-landmark-energy-legislation-establishing-new-mexico-as-a-national-leader-in-renewable-transition-efforts/>. March 22, 2019

utility regulated by the Arizona Corporation Commission. Our request for \$210 million in transition support is thus based on the following:

Plant	Constructed Nameplate Capacity (MW)	Downsized Nameplate Capacity (MW)	Peak APS Ownership (MW)	APS Transition Support (\$100,000/MW Peak)
FCPP ⁶²	2,269	1,636	1,145	\$114,500,000
NGS	2,409	2,409	337	\$33,726,000
Cholla	1,029	854	615	\$61,500,000
Total	5,707	4,899	2,097	\$209,726,000

As Navajo President Nez noted in his comments in the TEP rate case, “This is a reasonable seed funding floor.” ⁶³ Given the “immense environmental arid public health costs” associated with coal plants, he said, “a higher per megawatt rate is likely justified” and “represents a minimum compensation threshold” to properly support Navajo communities during the transition away from coal-fired power.

The Citizen Groups also recommend that no more than half of any funding derive from the customer rate base, with the majority contributed by shareholders.

2. APS also should provide separate financial support in an amount to be determined to help establish and implement two separate transition collaboratives, which it participates and helps facilitate employing its expertise in coordinating groups with multiple interests.: (1) A Four Corners Transition Collaborative comprising stakeholders from northwestern New Mexico, and (2) An Arizona Transition Collaborative comprising stakeholders from the Navajo Nation, the Hopi Tribe, the City of Page and Coconino County, and Joseph City and Navajo County, and including, but not limited to, groups such as power plant and mine worker labor leaders, environmental advocates, local and regional business interests and utility

⁶² Prior to 2013, APS owned 100% of Units 1-3 at FCPP, with a total nameplate capacity of 616 MW, as well as 15% of Units 4 and 5, for an additional 245 MW. In 2013, Units 1-3 were retired, but APS subsequently purchased an additional 48% of the ownership in Units 4 and 5 from Southern California Edison, giving it 63% ownership in the plant, or 1,031 MW. In 2016, APS acquired an additional 7% stake in Units 4 and 5 from El Paso Electric, giving it a total peak ownership of 1,145 MW.

⁶³ Comments submitted by Navajo Nation President Johathan Nez in ACC Docket No. E-01933A-19-0028, Tucson Electric Power Company Rate Case. Jan. 24, 2020. Page 11.
<https://docket.images.azcc.gov/E000004596.pdf>

planners. An appointed panel of stakeholder leaders will democratically determine the direction of planning and allocation of resources.

3. APS should be required to support coal-impacted communities through commitments to provide transmission capabilities and renewable energy development opportunities, prioritizing projects near the coal facilities it is closing on both tribal and non-tribal lands. Any agreements that APS signs or partnerships it participates in must include, at minimum: requirements for hiring tribal or local workforces in all phases;⁶⁴ a significant percentage of tribal ownership; be structured to replace revenue lost by the closure APS coal plants and related mining operations; and a percentage of revenue and/or ownership opportunities for communities where new projects are built.

Whether APS partners directly with the Navajo Nation or Hopi Tribe, or signs any manner of power purchase or off-take agreements, the Commission should set a minimum capacity threshold for the utility to meet in the next five years. In any upcoming RFPs for new generation resources, APS should be required to commit to projects on tribal land and that are at least partially tribally owned that eventually equal the 2,097 MW of total capacity that it already has retired or will be retiring in the next decade.

As part of any clean energy development commitments, APS also should conduct an analysis of its rights of way, leases and other agreements and contracts associated with generation, transmission and other infrastructure it owns and that are situated on or cross Navajo and Hopi lands, and based on the findings, renegotiate if necessary the fees, leases and other compensation to the tribes or any of their jurisdictions to be paid at fair market value.

4. APS should expand on a recently approved 'Commission ruling requiring investments in tribal energy efficiency programs.
5. In addition to utility-scale projects, APS also should provide in-kind and regular assistance to the Navajo Nation and Hopi Tribe to aid in economic development efforts through the development of electric infrastructure that serves tribal communities and helps connect to the grid the thousands of households that currently lack access to electricity.
6. Similar to the electricity access and because of the massive amounts of tribal water that have been consumed by coal-fired power generation, APS should be required to support tribal efforts to quantify and use water tied to plant operations, including the 34,000 acre-feet of water used by NGS that is now unallocated. As with lack of access to electricity, many Navajo and Hopi

⁶⁴ In accordance with the Navajo Preference in Employment Act (15 N.N.C. §601 et seq.) and the Navajo Business Opportunity Act (5 N.N.C. §201 et seq).

households also lack domestic water taps, an injustice that APS should help rectify.

I discuss each of these recommendations in my testimony below.

A. Recommendation 1: APS should establish two separate Transition Funds to provide financial resources to the communities impacted by the closure of FCPP, NGS and Cholla.

Q. What are the two proposed Transition Funds?

- A. The Four Corners Transition Fund would ensure that communities and workers most affected by the closure of FCPP are not left behind. The Fund would provide financial resources to help these communities build strong, resilient and diversified new clean energy economies as they transition beyond coal. Similarly, the Arizona Transition Fund would support the communities impacted by the closure of NGS and Cholla.

We envision that just and equitable funding assistance would be used in five basic areas of focus:

1. Job/skills training and education
2. Community financial support/assistance, including replacement of lost tax revenue
3. Clean energy/transmission development
4. Economic redevelopment and diversification, including water projects
5. Tribal electrification

Q. Have similar Transition Funds been created?

A. Yes. For example:

- In December 2017, the Washington Utilities and Transportation Commission approved a settlement agreement supporting a planning and transition process for the Colstrip Power Plant in Montana. The plant's two oldest units closed in January 2020. And as a result of legislation passed in the state of Washington, the plant's majority owner, Puget Sound Energy (PSE), must divest its ownership stake in the plant by 2025.⁶⁵ As part of proceedings in a rate case in 2017, PSE agreed to provide \$10 million in funding to support

⁶⁵ Vox. "A closer look at Washington's superb new 100% clean electricity bill." <https://www.vox.com/energy-and-environment/2019/4/18/18363292/washington-clean-energy-bill>. April 8, 2019.

transition planning and assistance for the community of Colstrip. Of that amount, \$5 million comes from utility shareholders.⁶⁶ In addition to these funds, Avista Corp., another one of Colstrip's owners, agreed in unsuccessful merger proceedings to augment the Fund with \$4.5 million, with 100% of those funds contributed by shareholders.⁶⁷

- In Tonawanda, New York, several years prior to the closure of the Huntley Generating Station, a coalition of stakeholders worked together to draft *Tonawanda Tomorrow*, a blueprint for the town's trajectory. Participating stakeholders included local community members, organized labor, local businesses, and environmental organizations — among others. The blueprint recommended several strategies to keep schools operational, attract new businesses, and improve the community's health and environment. Seven months before the power plant's closure, \$30 million in state funding was secured to implement the coalition's framework.⁶⁸
- As part of the closure plans for the Diablo Canyon nuclear plant near San Luis Obispo along the central California coast, Pacific Gas & Electric crafted a transition plan that included substantial funding for helping the community's economic transition in light of the accelerated nature of the plant's shutdown. After a comprehensive stakeholder process local officials, labor and environmental groups, and several rounds of revisions involving the California Public Utilities Commission, the California Legislature and the governor's office, the final package contributed \$350 million toward employee retention and retraining programs for the plant's 1,200 workers and for local economic development efforts.⁶⁹
- In neighboring New Mexico, the Legislature's passage of the Energy Transition Act (ETA) utilized the financial tool of securitization to create a transition fund to assist communities in the Four Corners region affected by the pending closure of San Juan Generating Station in 2022. Specifically, through low-cost bonds, the ETA sets aside \$40 million to be split by tribal and non-tribal communities in three main areas: workforce development, community financial assistance and economic redevelopment planning.⁷⁰ Additionally, the ETA also mandates that a significant portion of the replacement power PNM is seeking to fill the capacity vacated by the plant's

⁶⁶ Washington Utilities and Transportation Commission press release. "Regulators approve PSE rate case settlement, set customer rates."

<https://www.utc.wa.gov/aboutUs/Lists/News/DispForm.aspx?ID=490>. Dec. 5, 2017. See also https://billingsgazette.com/news/government-and-politics/plan-to-close-colstrip-power-plant-by-approved-leaving-m/article_0b0e8f15-eb3e-536d-8dc8-a3cf6db44a95.html

⁶⁷ <https://www.utc.wa.gov/aboutUs/Lists/News/DispForm.aspx?ID=510>

⁶⁸ <https://grist.org/justice/a-working-class-buffalo-suburb-retired-a-coal-plant-the-right-way>

⁶⁹ Western Grid Group, Just and Equitable Transition Financing Rate Case, Diablo Canyon Nuclear Plant. <http://westerngrid.net/wcea/wp-content/uploads/2019/03/JET-Case-Studies-Diablo-Canyon1.pdf>

⁷⁰ N.M. Senate Bill No.. 489. <https://www.nmlegis.gov/Sessions/19%20Regular/bills/senate/SB0489.pdf>

closure must be built in San Juan County, where SJGS is located, which will help restore hundreds of millions of dollars in lost tax base in the region.

- In Colorado, no specific plants were identified for retirement as was the case in New Mexico, but a similar bill signed into law in May 2019,⁷¹ authorizes utilities to securitize plant retirement costs, mandating that up to 25% of the interest earnings on the bond be set aside for worker and community transition. Notably, the Colorado measure, House Bill 19-1314, also known as the Just Transition from Coal-based Energy Act, establishes a Just Transition Office within the Colorado Department of Labor and Employment, the first such office of its kind in the country with staff dedicated to facilitating transitions for coal-dependent communities. The office is overseen by an Advisory Committee consisting of officials from the state Department of Labor and Employment, the Colorado Energy Office, the Department of Local Affairs, the Governor's office and the State Senate, as well as 12 local representatives, including coal workers, coal community representatives, members from disproportionately impacted communities, and experts on economic development and/or workforce retraining.

These examples demonstrate responsible utility commitments to support funding for just and equitable transition efforts well before the power plants in question have closed.

Q. How much funding should APS shareholders provide as part of this proceeding for both transition funds?

- A. APS should commit to at least \$210 million for the two funds, divided proportionally between the Four Corners regions and Arizona based on peak ownership capacity in the facilities. The Four Corners Transition Fund should be allocated \$119.5 million, to be shared among impacted tribal and nontribal communities in northwestern New Mexico. The Arizona Transition Fund should get \$95.2 million, also to be shared by both tribal and nontribal communities impacted by the closure of the NGS and planned closure of Cholla. Of this total, at minimum of 50% should be funded by APS shareholders.

In the context of both the utility commitments and legislative efforts discussed above, and the impacts detailed in my testimony, seed funding of \$210 million is a fair and justifiable starting point.

Q. Does the \$210 million represent a cap on the amount that APS should commit to these funds?

⁷¹ House Bill 19-1314.

https://leg.colorado.gov/sites/default/files/documents/2019A/bills/2019a_1314_rer.pdf

- A. No, absolutely not. This \$210 million is not a “cap.” If anything, it represents a floor – the minimum amount that APS and its customers and shareholders should provide to support a just transition for the communities impacted by the closure of FCPP, NGS and Cholla. As President Nez noted in his comments submitted in the TEP rate case, the allocation of \$100,000 per megawatt of peak ownership “represents a minimum compensation threshold.”⁷²

Q. Has the Arizona Corporation Commission previously ordered utility shareholders to fund certain initiatives, including ones that benefit vulnerable communities?

- A. Yes it has in a number of proceedings. For instance:

- In Decision No. 72723 dated January 6, 2012, Southwest Gas agreed to provide non-ratepayer funded contributions totaling at least \$1 million over five years to support the low income weatherization program.
- In Decision No. 71448 dated December 30, 2009, APS committed to augment the low income bill assistance program with \$5 million in funding.
- In Decision No. 74689 approving Fortis Inc.’s acquisition of UNS Energy in August 2014, Fortis Inc., and UNS Energy agreed to provide customer bill credits totaling \$30 million over five years to customers of TEP, UNS Electric and UNS Gas.
- In Decision No. 73912 dated June 27, 2013, TEP agreed to a \$150,000 annual shareholder contribution to fund low-income bill assistance programs. In its 2017 rate case, TEP recommitted to funding this amount for the next five years.⁷³
- Most recently, the Commission approved plans by APS for its energy efficiency programs in Docket No. E-01345A-19-0088, requiring APS to develop and implement a Tribal Energy Efficiency Program, supported annually with \$457,000 in funding, with the purpose of assisting Navajo and Hopi communities “impacted by the closure of coal-fired power plants that Arizona Public Service Company owns or operates, including Navajo Generating Station, Four Corners Power Plant, and Cholla Power Plant.” Importantly, the Commission’s vote in favor of the measure for the first time ever explicitly recognizes “corporate obligations to support a just and equitable transition of communities impacted by early power plant closure ...”

Q. Should APS ratepayers also contribute to the two transition funds?

⁷² Nez comments in Docket No. E-01933A-19-0028, Page 11.

⁷³ See Arizona Corporation Commission Decision No. 75975, dated February 24, 2017.

- A. To make the contributions equitable, as with the Colstrip transition funding, the Citizen Groups recommend that APS shareholders provide at minimum 50% of any amount committed to the Four Corners Transition Fund and 50% toward the Arizona Transition Fund. The remaining half could be funded by aPS shareholders, APS ratepayers, or a combination of the two.

Q. Has Commission Staff previously supported just transitioning planning efforts, including the creation of a just transition fund to help communities impacted by power plant closure?

- A. Yes it has. In the previous APS rate case on FCPP, Commission Staff stated that it, "Supports a just plan for transition to assist communities dependent on coal" including "a fund of several million dollars to assist the Navajo communities in transitioning to a future that is not heavily dependent on coal."⁷⁴ Notably, in this same proceeding, APS also acknowledged a commitment to just and equitable transition when it stated that, "It is committed to working with the Nation and the surrounding community to ensure a smooth transition."⁷⁵

Q. How would transition funding be allocated?

- A. Each transition fund would be overseen by a transition collaborative, which I discuss next in my testimony.

B. Recommendation 2: APS should provide financial support to help establish and implement two separate transition collaboratives that it also commits to participate in.

Q. Describe the two transition collaboratives proposed by the Citizen Groups.

- A. The Four Corners Transition Collaborative would provide a neutral venue for diverse stakeholders to meet regularly with APS and other owners of FCPP to proactively address economic, worker, environmental and transition issues that will result from the closure of FCPP and the impacts on Navajo and nontribal communities of the Four Corners region.

The Arizona Transition Collaborative would be similarly constituted by representatives of the communities impacted by the closure of NGS.

⁷⁴ ACC Staff Post-Hearing Brief, Page 1, <https://docket.images.azcc.gov/0000192391.pdf>

⁷⁵ Rebuttal Testimony of Barbara Lockwood on behalf of the Arizona Public Service Company, Page 4, Lines 20-21.

Q. Why are transition collaboratives needed?

- A. It is simply not enough to write a check to fund “transition” activities without a constructive conversation about how financial support could and should be used most effectively. Moreover, because of the complexities related to the closure of these plants – including ownership by multiple utilities; tribal sovereignty issues; and regulatory oversight by state, federal and tribal agencies – decision-making about future economic development will require input from numerous bodies and stakeholders with diverse viewpoints. The only equitable way to ensure that such voices have a say in the outcome of where and how much money is dedicated to specific projects, communities and programs is through inclusive, ongoing dialogue. The easiest way for such discussions to fall apart is to exclude certain interests from participating.

Q. What would the transition collaboratives do?

- A. The transition collaboratives would support a process to allow diverse stakeholders to come together regularly to discuss and resolve the myriad issues surrounding coal plant closure and subsequent economic development and diversification, including but not limited to:
- Determining the set of stakeholders affected by plant closure that should be involved in each Collaborative. Plant owners, Native American representatives, utility regulators, local community representatives, worker representatives, public interest organizations, local businesses, organized labor and the general public are all potential key stakeholders. The Citizen Groups would also actively participate.
 - Establishing a timeline and process for the consideration of issues, including whether it is necessary to have a formal structure, with voting rights or designated seats for representatives, or if an informal process would be effective.
 - Determining the issues that should and should not be addressed by each collaborative. Some of the issues may include treatment for displaced workers, retraining opportunities, reclamation activities, replacement power siting, water rights, and replacement of lost tax revenue.
 - Determining how transition fund monies should be allocated, invested, and spent.

Q. Would APS lead these collaboratives?

- A. No. It is critical that both collaboratives be led by a neutral convener or conveners. We recommend that APS help provide the funding necessary to support the formation and implementation of the collaboratives and that given its long partnership and experience working in impacted communities that it would participate as a key member. As part of each collaborative's formation, participating stakeholders would agree on a process to select a neutral convener or conveners.

Q. Has the Arizona Commission ordered collaborative working groups as part of prior rate case proceedings?

- A. Yes. In Decision No. 67744 approving the Settlement Agreement in a previous APS rate case, the Commission required APS to, "Implement and maintain a collaborative DSM working group to solicit and facilitate stakeholder input, advise APS on program implementation, develop future DSM programs, and review DSM program performance." The Commission further required that this collaborative at minimum include specific stakeholders including Commission Staff, the Residential Utility Consumer Office, Western Resource Advocates, and the Southwest Energy Efficiency Project, among others.

Q. Have other Transition Collaboratives been established in other states?

- A. Yes. The Tonawanda, New York, collaborative, which I described earlier in my testimony, is one such example. A stakeholder collaborative is also guiding use of transition funding provided to the community of Colstrip, Montana.⁷⁶

C. Recommendation 3: APS should support impacted tribal and nontribal communities through commitments to providing transmission capabilities and renewable energy development opportunities on tribal lands and near communities impacted by plant retirements

Q. Please describe the Citizen Groups' proposal to reserve transmission capabilities to benefit the Navajo Nation as part of this proceeding.

- A. The Citizen Groups recommend that at least 50% of any APS-owned transmission capacity currently used to deliver power from FCPP and Cholla be reserved for the benefit of the Navajo Nation when the plants are retired. A

⁷⁶ Cite colstrip collaborative

separate agreement, described below, already gives the Navajo Nations access rights to capacity on transmission lines from NGS.

Q. What is the purpose of this recommendation?

- A. Reserving a portion of the transmission capacity for the Navajo Nation would enable the Navajo Nation to benefit from economic development opportunities, including the development of renewable energy projects on tribal lands that could then be delivered to markets in Arizona, California and/or New Mexico using the FCPP and Cholla transmission systems.

Q. Is there recent precedent in Arizona for such an action?

- A. Yes. The Extension Lease between the Navajo Nation and the owners of NGS includes provisions for the owners to provide access to 500 MW of capacity on the two main transmission systems arising from the plant for a period of 35 years at no cost to the Tribe. In the agreement, the owners also agreed to fully cover all operations and maintenance costs on the two transmission systems for a period of 10 years.⁷⁷ APS is a signatory to this agreement.

Q. Please describe the Citizen Groups' proposal for renewable energy development opportunities on Tribal Lands as part of this proceeding.

- A. The Citizen Groups recommend that APS, as part of this proceeding, commit to developing at least 2,100 MW of renewable energy projects in coal-impacted communities to replace its ownership shares of generation capacity being retired from the three plants on or near the Navajo Nation, either through the development of renewable resources on Tribal Lands or the development of renewable resources that utilize Tribal-owned/controlled transmission lines. Agreements for these projects should be in place by the time the last of APS's coal units is retired, currently scheduled for 2031.

Q. Is there recent precedent in Arizona for such an action?

- A. Yes, there is. Salt River Project and the Navajo Tribal Utility Authority (NTUA) recently entered into a Memorandum of Understanding (MOU) that SRP will provide technical support in developing interconnection facilities for large-scale renewable development within the Navajo Nation, as well as provide procurement and financing expertise related to the development and ownership of such projects. The agreement targets the development of at least 500 MW of renewable energy projects over the next five to 10 years within the Navajo

⁷⁷ From the 2017 Extension Lease between the owners of Navajo Generating Station and the Navajo Nation, Sections 8(A)(i) and 8(A)(ii), <https://www.usbr.gov/lc/phoenix/reports/NGS/EAFONSI/ExtLeaseNAVSRP.pdf> (at page 23)

Nation.⁷⁸ In January, SRP issued a Request For Proposals for 500 MW of new solar energy capacity, with 200 MW of it coming from projects on the Navajo Nation.⁷⁹

Q. Are other states taking steps to ensure that replacement power is sited near impacted communities as a means of ensuring a just and equitable transition?

- A. Yes. In New Mexico, the Public Regulation Commission recently concluded protracted proceedings to determine the mix of resources that PNM will employ to replace power that will be lost with the retirement of SJGS in 2022.⁸⁰ The plan, approved unanimously, will result in the construction of 650 MW of new solar resources and 300 MW of battery storage, totaling over \$1 billion in investments within the school districts impacted by the retirement of SJGS in 2022.

Q. Do the Citizen Groups have other recommendations?

- B. Yes. Within six months of the conclusion of this proceeding, APS should file an independent assessment with the Commission documenting the ability to deliver power to Arizona load-serving entities both from renewable energy projects on or near communities impacted by APS plant retirements, including on the Navajo Nation and the Hopi reservation, and from renewable projects located elsewhere but delivered via Navajo Nation transmission. APS should commit to providing renewable energy to its customers based on the capabilities identified in this assessment — above the 2,100 MW described above.

⁷⁸ Phoenix Business Journal. Jan. 26, 2018.

<https://www.bizjournals.com/phoenix/news/2018/01/26/navajos-srp-to-double-solar-energy-plant-ink-big.html>

⁷⁹ SRP Press Release. “Salt River Project Issues RFP to Procure up to 400 MW of Solar and Seeks Competitive Proposals for Projects Sited on the Navajo Nation.”

<https://media.srpnet.com/salt-river-project-issues-rfp-to-procure-up-to-400-mw-of-solar-and-seeks-competitive-proposals-for-projects-sited-on-the-navajo-nation/>. Jan. 15, 2020.

⁸⁰ Utility Dive. “New Mexico approves 100% renewables + storage replacement for San Juan coal capacity.”

<https://www.utilitydive.com/news/new-mexico-approves-100-renewable-replacement-for-san-juan-coal-capacity/582557/>. July 30, 2020.

D. Recommendation 4: APS must comply with the provisions recently approved by the Commission to deploy energy efficiency programs to benefit Tribal communities and should strive to expand beyond the minimum level of required funding.

Q. What do the Citizen Groups recommend on energy efficiency?

A. The closure of the FCPP, NGS and Cholla represents a critical juncture for the Navajo and non-tribal communities living near the Navajo Generating Station and the Four Corners region. It is also a once-in-a-lifetime opportunity to lay strong economic foundations that will sustain Diné and local communities far beyond the operational life of coal. We believe this economic future should include significant deployment of energy efficiency that benefits Tribal and local communities, especially those communities most impacted by coal-fired power plant operations and closure. The Commission has adopted rules that will have APS make a commitment of \$457,000 annually for funding of Navajo and Hopi energy efficiency programs, but APS should view that amount as a floor and not a ceiling.

E. Recommendation 5: APS should provide in-kind and regular assistance to the Navajo Nation to aid in economic development efforts through the development of both electric and water infrastructure that serves Tribal communities.

Q. Please describe the status of electricity infrastructure on the Navajo Nation.

A. The Navajo Nation has significant needs for basic economic development including the development of basic electricity infrastructure. According to data from the U.S. Energy Information Administration and the U.S. Census Bureau, there are about 18,000 homes on the Navajo Nation lacking electricity – or about one-third of the households on the reservation.⁸¹ According to some

⁸¹ <https://www.nhonline.com/news/2017/feb/28/solar-power-brings-light-some-navajo-homes/>

estimates, without any additional assistance, it will take the NTUA more than 35 years to electrify the entire reservation.⁸²

Q. What do the Citizen Groups' recommend as part of this proceeding?

- A. Given APS's expertise in this area, the company should commit, as part of this proceeding, to providing assistance, including in-kind services, to help the Navajo Nation, including at the Chapter House and Agency levels, to develop its electricity infrastructure. For example, APS could provide these entities with assistance for distribution grid planning and expansion, and financing expertise related to project development.

Q. Is there recent precedent in Arizona for such an action?

- A. Yes. As part of the recent MOU that SRP entered into with the Navajo Nation, SRP agreed to provide technical support to develop interconnection facilities for large-scale renewable development within the Navajo Nation, and provide procurement and financing expertise related to the development and ownership of such projects.⁸³

Q. Does a just transition effort align with the Fundamental Law of the Diné?

- A. Yes it does. The Fundamental Law of the Diné (Diné Bi Beenahaz'áanii),⁸⁴ approved by the Navajo Nation Council in 2002, articulates the foundation of all Navajo life and government, presenting proper and acceptable ways for human beings to sustain themselves and their communities.

The Fundamental Law governs natural resource development and use, including coal mining and combustion and their impacts on climate change, water, health and socioeconomics. Relevant sections of the Fundamental Law to this proceeding include the following:

- The sacred elements of life, air, light/fire, water and earth/pollen in all their forms must be respected, honored, and protected, for they sustain life.
- The Diné have a sacred obligation and duty to respect, preserve and protect all that was provided for. We were designated as the steward of these

⁸² Indian Country Today. Feb. 11, 2015.

<https://newsmaven.io/indiancountrytoday/archive/not-alone-in-the-dark-navajo-nation-s-lack-of-electricity-problem-yO5P4y3H6k6kuxF-U5FvvQ>

⁸³ Phoenix Business Journal. Jan. 26, 2018.

<https://www.bizjournals.com/phoenix/news/2018/01/26/navajos-srp-to-double-solar-energy-plant-ink-bi-g.html>

⁸⁴ <http://www.navajocourts.org/dine.htm>

relatives through our use of the sacred gifts of language and thinking.

- The rights and freedoms of the people to the use of the sacred elements of life ... and to the use of the land, natural resources, sacred sites, and other living beings must be accomplished through the proper protocol of respect and offering, and these practices must be protected and preserved for they are the foundation of our spiritual ceremonies and the Diné life way.
- It is the duty and responsibility of the Diné to protect and preserve the beauty of the natural world for future generations.

The Citizen Groups' recommendations to ensure a "just and equitable transition" as part of this proceeding align with these principles of Diné Fundamental Law. As a partner with the Navajo Nation through land leases at FCPP and NGS, and a tenant on Navajo land, and as an employer of more than 1,000 Navajo and Hopi workers at the three plants combined, APS should accord deference to Diné Fundamental Law in its decision-making and support the Citizen Groups' recommendations in this proceeding.

VIII. Conclusion

Q. Does this conclude your testimony?

A. Yes.

Attachment 1

Chishí nishíí, Biligáana bashishchíín, Kinya'ááni dashichei, Biligáana dashinálí

Education

- M.A. Linguistics:** University of British Columbia, Vancouver British Columbia, Canada
- B.A. Family and Consumer Resources:** University of Arizona, Tucson, Arizona
- Minor: General Business**

Experience

- Just Transition Coordinator, To Nizhoni Ani, Hardrock, AZ Nov. 2017 – Present
- Legislative District Assistant, Navajo Nation Legislative Services, Window Rock, AZ June 2016 – Nov. 2017
- Director Federal Programs, Pinon Unified School District, Pinon, AZ Oct. 2005 – June 30, 2016
- Co-founder and Volunteer Organizer, To Nizhoni Ani, Hardrock, AZ Jan. 2001 – Nov. 2017
- Program Coordinator, Hardrock Council on Substance Abuse Inc., Hardrock, AZ Jan. 1999 – Nov. 30, 2001
- Research Assistant, University of British Columbia, Vancouver, British Columbia, Canada Sept. 1996 – May 1, 1998

Publications/Presentations

- House Sub-Committee on Water and Minerals, NGS Hearing Wa.DC April 12, 2018
- Energy Finance Training, IEEFA, New York, NY March 12, 2018
- Decarbonizing the Electric Grid, New Orleans, LA March 28, 2017
- K'e, "Kinship, Clanship" a Form of Government, Presented at the National Johnson O'Malley Conference Denver, March 2014
- How to: "Preparing a Needs Assessment for JOM", Presented at the Navajo Nation Johnson O'Malley Conference, Albuquerque, NM September 2015 Sept. 22, 2014
- Protecting the Navajo Aquifer, - To Nizhoni Ani, Prepared for Water Resource and Research Center, University of Arizona, June 2013 June 6, 2013

Research Experience

- Research Assistant for University of British Columbia, Vancouver, British Columbia, Canada Sept. 1996 – May 1, 1998

Teaching Experience

- Substitute Teacher, Tuba City Public School, Tuba City, AZ Jan. 1994 – May 1995
- Navajo Language Class, Pinon Unified School District, Pinon, AZ Dec. 2011 – February 2012

Professional Development

- Arizona Association of School Business Officials (AASBO): Purchasing, Accounting, School Business Finance, Audit and Compliance Jan 2005 – Jan 2016
- Arizona Department of Education Grant Training Sept. 2006 - 2015

Affiliations/Memberships

- Navajo Language Academy, Member June 1997 – August 2008
- To Nizhoni Ani, Member, Volunteer and Co-founder January 2001 - Present

Interests

- Horseback riding, running, learning traditional songs,